A.4.5 SWMU 25

Description

SWMU 25 consists of two suspected TEL sludge weathering areas located adjacent to the northeast edge of the EYB. SWMU 25 is located southeast of SWMU 8, approximately 50 feet west of the Arthur Kill.

SWMU 25 was identified based on the indicated presence of a suspected weathering area on the Refinery Leaded Burial Map. These weathering areas reportedly supplanted TEL burials in the early to mid-1960's, after it was discovered that organic lead (TEL) rapidly degrades to its less toxic inorganic form under normal atmospheric conditions. The TEL Weathering Areas were reportedly roped off and the TEL-bearing tank bottom sludges were tilled into the soil. The fate of these sludges after weathering is unknown. The information available about the TEL weathering areas is based primarily on one site drawing (BA-100A 10594-1: Barber Refinery—Location of T.E.L. Pits). This drawing shows four added proposed sludge weathering sites; the date of this addition is August 1963. As reported in the DOCC (ESE, 1994), discussions with Refinery personnel and roping with danger signs confirmed the presence of the two weathering areas in the North Field. However, the use of the two possible weathering sites in the East Yard could not be confirmed, and subsequent construction of the EYB may have disturbed these sites, if in fact they were ever used. Use of burial and weathering sites reportedly ceased in 1975 when TEL sludges were hauled and disposed of off-site.

As shown on Figure A.4.4 and summarized on Table A.4.4, seven borings and seven soil samples have been used to characterize SWMU 25. In addition, relevant data from SWMU 8 and AOC 13, and groundwater data from SB-14 and SB-15 are also shown on Table A.4.4 for delineation purposes. All of the seven soil samples that were collected during the 1st-Phase RFI were analyzed for lead and TEL, and five of the samples were also analyzed for VOCs and SVOCs.

Soils

The fill layer underlying this portion of the Refinery ranges from approximately nine feet to more than 28 feet thick. The depth to groundwater ranges from approximately 4 to 8 feet bgs.

The black staining and odor observed in the fill layer in one of the borings (SB0202) appears to be similar to one of the borings from SWMU 8, but all of the PID readings were zero ppm at SB0202. It is likely that this staining is associated with the oily fill typically found in the eastern portion of the East Yard, and is not related to disposal of TEL sludge. Odor and black staining were also observed in the underlying peat layer at SB0201. Delineation criteria were not exceeded in any of the seven soil samples that were collected from the fill layer during the 1st-Phase RFI.

Groundwater

Monitoring wells SB-14 and SB-15 are both located in the vicinity of SWMU 25. No constituents were detected above applicable groundwater delineation criteria in either of the groundwater samples collected in January 2003 from these wells.

Summary

Given that Refinery personnel were unable to confirm that this suspected weathering area was actually used, and the fact that there were no exceedances of applicable delineation criteria in any of the seven soil samples or in the two groundwater samples that were collected from this suspected TEL weathering area, no further source characterization is warranted for SWMU 25 and Chevron recommends no further action for SWMU 25.